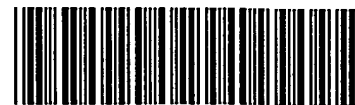


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 09/528,682A
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Date Processed by STIC: 12/29/05

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DATE: 12/29/2005

PATENT APPLICATION: US/09/528,682A

TIME: 09:20:21

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3 <110> APPLICANT: Pizza, Mariagrazia
4     Giuliani, Marzia M
5     Rappuoli, Rino
7 <120> TITLE OF INVENTION: IMMUNOGENIC DETOXIFIED MUTANT E. COLI LT-A-TOXIN
9 <130> FILE REFERENCE: 2302-0342.10
11 <140> CURRENT APPLICATION NUMBER: 09/528,682A
12 <141> CURRENT FILING DATE: 2000-03-20
14 <150> PRIOR APPLICATION NUMBER: PCT/IB97/01440
15 <151> PRIOR FILING DATE: 1997-10-30
17 <150> PRIOR APPLICATION NUMBER: 09/297,171
18 <151> PRIOR FILING DATE: 1999-04-27
20 <160> NUMBER OF SEQ ID NOS: 5
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27 <213> ORGANISM: Escherichia coli
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36 Arg Gly Thr Gln Met Asn Ile Asn Leu Tyr Asp His Ala Arg Gly Thr
37           35           40           45
39 Gln Thr Gly Phe Val Arg Tyr Asp Asp Gly Tyr Val Ser Thr Ser Leu
40           50           55           60
42 Ser Leu Arg Ser Ala His Leu Ala Gly Gln Ser Ile Leu Ser Gly Tyr
43   65           70           75           80
45 Ser Thr Tyr Tyr Ile Tyr Val Ile Ala Thr Ala Pro Asn Met Phe Asn
46           85           90           95
48 Val Asn Asp Val Leu Gly Val Tyr Ser Pro His Pro Tyr Glu Gln Glu
49           100          105          110
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52           115          120          125
54 Arg Val Asn Phe Gly Val Ile Asp Glu Arg Leu His Arg Asn Arg Glu
55           130          135          140
57 Tyr Arg Asp Arg Tyr Tyr Arg Asn Leu Asn Ile Ala Pro Ala Glu Asp
58   145          150          155          160
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66 Thr Ile Thr Gly Asp Thr Cys Asn Glu Glu Thr Gln Asn Leu Ser Thr

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Output Set: N:\CRF4\12292005\I528682A.raw

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99          20          25          30
101 Asp Gly Arg Tyr Ser Asn Phe Ala Leu Ile Ser Ala Glu Gly Gly Met
102          35          40          45
104 Gln Asp Gly Asp Leu Phe Gly Thr Val Asn Gln Ser Asn Phe Pro Met
105          50          55          60
107 Ser Thr Phe Glu Gln Val Pro Asn Asn Lys Glu Phe Lys Gly Val Ile
108 65          70          75          80
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127          20          25          30
129 Asp Gly Arg Tyr Ser Asn Tyr Ala Leu Ile Ser Ala Glu Gly Gly Met
130          35          40          45
132 Asp Arg Asp Leu Phe Gly Ser Ala Asn Ile Asp Gly Phe Pro Glu Val
133          50          55          60
135 Arg Glu Phe Asn Ser Leu Pro Asn Asn Lys Ala Ser Ser Asp Thr Ala
136 65          70          75          80
138 Ser Leu Asn Lys Gln His Asp Ala Asp Phe Lys Lys Tyr Ile Lys Leu
139          85          90          95
141 Leu Ile Asn Asn Asp Gly Phe Phe Ser Asn Asn Gly Gly Lys

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157 Arg Gly Thr Gln Met Asn Ile Asn Leu Tyr Asp His Ala Arg Gly Thr
158          35          40          45
160 Gln Thr Gly Phe Val Arg Tyr Asp Asp Gly Tyr Val Ser Thr Ser Leu
161          50          55          60
163 Ser Leu Arg Ser Ala His Leu Ala Gly Gln Ser Ile Leu Ser Gly Tyr
164  65          70          75          80
166 Ser Thr Tyr Tyr Ile Tyr Val Ile Ala Thr Ala Pro Asn Met Phe Asn
167          85          90          95
169 Val Asn Asp Val Leu Gly Val Tyr Ser Pro His Pro Tyr Glu Gln Lys
170          100         105         110
172 Val Ser Ala Leu Gly Gly Ile Pro Tyr Ser Gln Ile Tyr Gly Trp Tyr
173          115         120         125
175 Arg Val Asn Phe Gly Val Ile Asp Glu Arg Leu His Gly Asn Arg Glu
176          130         135         140
178 Tyr Arg Asp Arg Tyr Tyr Arg Asn Leu Asn Ile Ala Pro Ala Glu Asp
179 145          150         155         160
181 Gly Tyr Arg Leu Ala Gly Phe Pro Pro Asp His Gln Ala Trp Arg Glu
182          165         170         175
184 Glu Pro Trp Ile His His Ala Pro Gln Gly Cys Gly Asn Ser Ser Arg
185          180         185         190
187 Thr Ile Thr Gly Asp Thr Cys Asn Glu Glu Thr Gln Asn Leu Ser Thr
188          195         200         205
190 Ile Tyr Leu Arg Glu Tyr Gln Ser Lys Val Lys Arg Gln Ile Phe Ser
191          210         215         220
193 Asp Tyr Gln Ser Glu Val Asp Ile Tyr Asn Arg Ile Arg Asp Glu Leu
194 225          230         235         240

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VERIFICATION SUMMARY

DATE: 12/29/2005

PATENT APPLICATION: US/09/528,682A

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